WO 2005/068688 PCT/JP2005/000732

32

CLAIMS

- 1. A plating solution which contains ionic Fe, ionic Pt, and a complex agent, at a molar ratio of the ionic Fe to the ionic Pt ranging from 0.75 to 3.
- 2. The plating solution according to claim 1, wherein the complex agent contains tartrate ions or citrate ions.
- 3. The plating solution according to claim 1,
 10 wherein the concentration of the ionic Fe ranges from
 0.005 mol/L to 0.1 mol/L.
 - 4 The plating solution according to claim 1, wherein the plating solution has a pH ranging from 5.0 to 10.5.
- 5. The plating solution according to claim 1, wherein the ionic Fe and the ionic Pt form a double complex constituted of an Fe complex and a Pt complex.
 - 6. The plating solution according to claim 1, wherein the plating solution contains ionic Cu and a complex agent for the ionic Cu.
 - 7. A process for producing a structure comprising steps of:

20

providing an electrode and an object to be plated in a vessel containing a plating solution set forth in

25 any of claims 1 to 6, and
plating the object with a magnetic material
containing FePt from the plating solution by applying

WO 2005/068688 PCT/JP2005/000732

33

voltage to the electrode to form a structure.

5

- 8. A process for producing a structure, wherein the structure formed in claim 7 is heat-treated further at a temperature ranging from 450° C to 750° C.
- 9. A process for producing a structure, wherein the structure set forth in claim 7 is heat-treated further in the presence of hydrogen.
- 10. The process for producing a structure

 10 according to claim 7, wherein the object to be plated

 is a structure having holes, and the step of plating

 the object to form the structure is deposition of the

 magnetic material containing FePt into the holes.
- 11. An apparatus, having a plating solution as 15 set forth in any of claims 1 to 6, a vessel for holding the plating solution, and electrodes, for conducting plating by application of a voltage to the electrodes.